

ing it again, was found to have lost one dram, 6 grains.  
 Dec. 3, Mr. *Arthur Bayly*, one of the *Fellows* of the *R. Society*, presented them with a piece of this *Linnen* in the name of Mr. *Waite*. At the same time, the same Mr. *Bayly* presented Dr. *Plot* with another piece of it, which being brought to *Oxford* the *Experiment* was again repeated on it (Dec. 16.) it being put into a strong *Charcoal fire* in the *Natural History School*, in a full meeting of the *Philosophical Society* of that *University*; where after it had continued red hot for some considerable time, it was taken forth again little altered when cold, saving that it seemed a little *whiter* and *cleaner* than before it was put in; as appears upon the *Journal* of that *Society*. Concerning which, Dr. *Plot*, being desired to offer his thoughts, drew up the following *Discours*, which was read before the said *Society*, *June* the 23<sup>d</sup> *An.* 1685.

*A Discourse concerning the Incombustible Cloth above mentioned; Address't in a Letter to Mr. Arthur Bayly Merchant, and Fellow of the R. Society; and to Mr. Nicholas Waite, Merchant of London; by Rob. Plot. LL. D.*

*Worthy Gentlemen.*

THE Historical account of the *incombustible Linnen Cloth* above mention'd, being sent me by the one of You; and a noble present made me of part of it by the other; with a desire from both, that I would search the old *Authors* and see how agreeable their *relations* are to this; give you Both a just right to the following *Discourse*: which I desire you would believe I address to you, not so much out of *Complement*, as true *gratitude* for so valuable

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a gift. It being esteemed by the *Ancients*, though then more common, and perhaps better known, then tis yet amongst us, equally pretious with the best of Pearls<sup>a</sup>.

Nor is it now of mean value even in the *Country* where made, a *China Cove*t, (i. e. a piece 23 inches and  $\frac{3}{4}$  long,) being worth 80 *Tale* i. e. 36<sup>lb</sup>. 13<sup>s</sup>. 4<sup>d</sup>. But that which much enhanced its worth with me, was, that hereby you put me in a capacity of giving full satisfaction to this famous *University* of the reality of the thing; whereof, I cannot blame them, if some did doubt; since we find very good *Authors* to have done the same: who though they owned such a mineral as *Amiantus*, out of the woolly part whereof this sort of *Linnen* was always anciently said to be made, yet questioned the possibility of its having been actually done: *Dalecampius* holding it very incredible, that it should be woven into cloth, by reason of its brevity<sup>b</sup>; and *Schildius* in his *Commentary* upon *Suetonius* absolutely denying it, *Multi falso sibi Linteum quoddam dicitur ex ingenio suo comminiscuntur*, being his very words<sup>c</sup>. *Xuerius Boxhornius* does not indeed deny but that there might be such *Linnen* amongst the *Indians*, where the materials of it grow; of which they might make them funeral shrouds wherein to enwrap the bodys of their *Princes* (as they say the ancient manner was) and so preserve their *Asbes* distinct from those of the *Pyra* in which they were burnt: but he is peremptory that the *Romans* never used any such<sup>d</sup>; and so is *Isaac Casaubon*<sup>e</sup>. The truth whereof I shall not dispute: but whether they did or no, I am sure they might, had they pleased; for *Pliny* says expressly (and I dare believe him in any thing he speaks of his own knowledg) that he himself had seen *Napkins* thereof, which being taken foul from the board at a great feast, were cast into the fire, by which means they were better scoured, and looked fairer and cleaner, then

<sup>a</sup> C. Plinii 2. Nat. Hist. Lib. 19. c. 1. <sup>b</sup> Jac. Dalecampii notæ in locum supra citat. <sup>c</sup> Joh. Schildij notæ in C. Suet. Tranq. Lib. 2. <sup>d</sup> M. Xuerii Boxhornii Quest. Rom. Quest. 25. <sup>e</sup> It. Casaub notæ in Suet. Lib. 2. p. 186.

if they had been wash't in *water*<sup>l</sup>. Now if they had such *Napkins*, they might no question have had *Sheets* of it too, and put them to the use above mention'd had they thought it expedient, as, 'tis said in the *Letter* above, the *Tartarian Princes*, and others adjoining, doe at this very day.

That this *Linnen* was very well known to the *Ancients*, beside that of *Pliny*, we have the further testimony of *Cælius Rhodiginus*, who agrees with the *Letter*, placing both the *materials* and *manufacture* of it in *India*<sup>s</sup>; and *Paulus Venetus* more particularly in *Tartary*, the *Emperour* whereof, he says, sent a piece of it to Pope *Alexander*<sup>h</sup>. It is also mention'd by *Varro*; and *Turnebus* in his *Commentary* upon him, *de Lingua Lat*<sup>i</sup>. And by all of them as a thing inconsumable by fire. In these latter ages: *Geo. Agricola* tells us, that there was a *Mantle* of this *Linnen* at *Vereburg* in *Saxony*<sup>k</sup>; and *Simon Majolus* says, he saw another of it at *Lovain* expos'd to the fire<sup>l</sup>. *Salmuth* also acquaints us that one *Podocattarus* a *Cyprian* Knight shewed it publickly at *Venice*, throwing it into the *fire* without scruple or hurt<sup>m</sup>; and Mr. *Lassells* saw a piece of it in the curious *Cabinet* of *Manfred Septalla*, Canon of *Milan*<sup>n</sup>. Mr. *Ray* was shewed a purse of it by the Prince *Palatin* at *Heidleberg*, which he saw put into a pan of burning *Charcoal* till it was throughly ignite, which when taken out and cool, he could not perceive had receiv'd any harm<sup>o</sup>; and we are told in the *Burgundian Philosophy*, of a long *Rope* of it, sent from *Signior Boccioni* to the *French King* & kept by *Monfieur Marchand* in the Kings gardens at *Paris*, which though steeped in *oyle* & put in the *fire*, is not consumed<sup>p</sup>. To which add, that we have now seen a piece of this *Linnen*, pass the fiery triall both at

<sup>l</sup> C. Plinii 2<sup>di</sup>. Lib. 19 cap. 1 & Cæli Rhodigini Lectionum Antiq. Lib. 18. cap. 31. h. M. Pauli Veneti de Regionibus Orientalib. Lib. 1. cap. 47. i. Andr. Turnebi Comment. in Varr. de Lingua Lat. k. Geo. Agricole de natura Fossilium Lib. 5. l. Sim. Maioli dierum Canical. part. 2. colloq. 20. m. Hen Salmuth in Pancirolli rer. deperdit. Tit. 4. n. Rich. Lassells Voyage into Italy Part. 1. o. Ray's Observat. Topograph. &c. pag. 83. p. Philosoph. Burgund. Tom. 5. Tract. 5. cap. 5.

*London, & Oxford.* So that it seems to have been known in all ages, all describing it after the same manner, as a thing so insuperable by *fire*, that it only *cleanses* and makes it better.

It being clear then beyond controversy, that there always was, and now is such *incombustible Linnen*; it cannot but be worth while to consider it nicely, and in its full extent, which I shall doe first in giving some account of the notation of the *Names* of the *lanuginous mineral* of which 'tis made, and the *places* where found. 2. of its *natural principles*. 3. of the *manufacture* of it into *thread cloth*, &c. 4. of the *variety of uses* it has been put to. and 5. of the *reason* why *incombustible*. And of all these with as much brevity, as perspicuity will admit of. First then as to the *notation* of its *Names* whereof it has many, taken from its *qualities, colour, texture, and places* where found; It is called first (from its strange *qualities*) sometimes *Amiantus, quod in ignem injectus non uritur*, the *fire* being so far from *defiling* it, that it rather gives it a *lustre*. 2. It is call'd *Asbestos*. and 3. *Salamandra*, in English *Salamanders wool*; I suppose from the *thryallides* or *Candle-Wicks* said to be anciently made of it, which being put into *Lamps* of such *inconsumable oyl*, as is mention'd in the *Letter*, would never waft, or goe out; which I take to be the true reason of the imposition of these *Names* upon it, whether there ever were any such *Lamps* or noe. For as for the stone *Asbestos* or *Asphyctos* mention'd by *Solinus*<sup>9</sup>, *Isodore*<sup>r</sup>, *Salmasius*<sup>t</sup>, and *Maiolus*<sup>t</sup>, found in *Arcadia* of an *Iron-colour*, which they all say if once *heated*, can never be *extinguish't* or *cooled* again; it must be a quite different thing from *ours*, then which nothing is *extinguish't*, or *cooled* sooner. Nay so far is it from being the same with our *Asbestos*, that

<sup>9</sup> Julii Solini Polyhist. Cap. 12. r Isodor Episc. Hispal. Orig. Lib. 16. Cap. 4. f Cl. Silvanii Exercitat. Plin. in C. Jul. Solini Polyhist. t Sim. Maioli Colloq. Phys. admirand. Colloq. 18. & 22.

strictly speaking, I dare boldly say, there was never any such thing in *nature*: Notwithstanding what *Metaphrastes* tells us of it, relating to St. *George* the *Megalo-Martyr*, *Patron* of the *English*; who being condemned to be burnt by his wicked persecutors, that had seen many miracles done in the name of *Christ*, fearing the virtue of that *Name* might extinguish the common fire, *Asbesto lapide Sanctum obruerunt*, cover'd him all over with *Asbestos* stones which they thought could never be extinguish'd<sup>u</sup>, For I guess with *Bollandus* it was nothing else but *Calx viva*<sup>w</sup>; or *unslaked Lime*, which kept dry will indeed retain its fiery particles for a long season; or else some such stone as the *Afydos* of *Pliny* which once heated will hold so for a week<sup>x</sup>; like the *Ruggiola's* of *Spain* (which are broad plates, like tiles, cut out of a Mountain of red Salt near *Cardona*) that being heated on both sides will keep warm for a whole natural day<sup>y</sup>; or our *Cornish* warming stone which will hold heat for 8 or 10 hours; All, or any of which, *per Synecdochen partis*, may in some sense be call'd *Asbestos* well enough. Yet *Isodore* and *Maiolus* both tell us of a *Lamp* that hung somewhere in a *Temple* of *Venus*, that had a wick of such *Asbestos*, that no tempest either of wind or water could possibly extinguish<sup>z</sup>; and we are told that the *Lamp* found in the tomb of *Pallas* the *Arcadian* slain by *Turnus* in the *Trojan War*, was of this kind, it remaining burning after it was taken forth, notwithstanding either *wind* or *water*, with which some did endeavour to quench it<sup>a</sup>. Which *Histories* must either be false, or the *Lamps* must have *Wicks* of some different kind of *Asbestos* from ours; which is easily extinguish'd; and from a pungent quality *Agricola* says it has on the tongue without *astringency*, is otherwise call'd *Alumen*<sup>b</sup>, having the distinguishing Epithet [ *plumeum* ]

<sup>u</sup> Sim. Metaphrastes in Encomio Sti. Georgii apud Lipoman. Tom. 7. in Apr. 23. <sup>w</sup> Bollandus in Acta Sanctorum. Apr. 23. 2. <sup>x</sup> C. Plinii 2<sup>o</sup>. Nat. Hist. Lib. 37. cap. 10. <sup>y</sup> Fr. willoughby's Voyage through Spain. p. 471. <sup>z</sup> Isidor. Episc. Hispal. Orig. Lib. 16. cap. 4. & Sim. Maiolus colloq. Phys. admirand. colloq. 18. <sup>a</sup> Fortun. Liceti. de Lucern. Lib. cap. 11. <sup>b</sup> Geo. Agricola de Natura Fossilium Lib. 5.

added to it, taken from its downy filaments, to discriminate it from all the rest of the Alums.

From the *light gray* colour of its lanuginous parts, it is call'd by some *Polia*; by others *Corsoides*; and from its likeness to the *hoary fibres* of some sort of *Matweed*, *Spartopolia*<sup>c</sup>. From the capacity it has of being spun into thred, it is also call'd *Linum*, with some distinguishing *Epithet* taken either from its *quality*, such as *asbestinum*, or *vivum*<sup>d</sup>; or from the place where found, in general or particular: it being call'd in general *Linum fossile*; in *Englisb*, *Earth-flax* and in particular *Linum Indicum* by *Cælius Rhodiginus*<sup>e</sup>; *Linum Creticum* by *Strabo*<sup>f</sup>; *Linum Cyprium* by *Pancirollus*<sup>g</sup>; also *Carpasum* by *Plutarch* and *Rhodiginus*, from *Carpasia* a City in *Cyprus*, near which it is found<sup>h</sup>; and *Linum Carystium*, by *Pausanias* from a Town of that name in *Negropont* where it was also dugg<sup>k</sup>. But beside these places that have given *Epithets* to the thred made of it, it is also found in *Tartary*, as *M. Paulus Venetus*<sup>l</sup> and *Mr. Waite* agree; and as *Agricola* informs us, at *Namur* in the *Low-Countries*; at *Eisfeld* in *Thuringia*; amongst the mines in the old *Noricum*; somewhere in *Egypt*, and in the mountains of *Arcadia*<sup>m</sup>; Also at *Puteoli* as *John Hessus* acquaints<sup>n</sup>; and lately in some mines in *Italy* by *Signior Marco Antonio Castagna*<sup>o</sup>. To which we may add our own *Country*, it having been yet lately met with in a small *Island* belonging to *William Robinson Esq*; called *Ynis Molroniad*. i. e. the *Island of Sea-calves*, in the parish of *LLan-Fair yng Hornwy* in *Anglesey* in *Wales*.

Secondly as to the *natural principles* of it, though it be commonly by the *Lithographers* reckon'd among *stones*, I rather should judg it a *terra lapidosa* or middle substance

<sup>c</sup> Ibidem. <sup>d</sup> C. Plinii 2<sup>o</sup>. Nat. Hist. Lib. 19. cap. 1. <sup>e</sup> Cæli. Rhodigini Lect. antiq. Lib. 18. cap. 31. <sup>f</sup> Strabonis rer. Geograph. Lib. 10. <sup>g</sup> Guid. Pancirolli rer. deperdit. Tit. 4. <sup>h</sup> Cæli. Rhodigini Lect. Antiq. Lib. 14. cap. 18. & Vid. Geo. Agricola. de Nat. Fossil. Lib. 5. <sup>i</sup> Mar. Pauli Venet. de Reg. on b. Oriental. Lib. 1. cap. 47. <sup>m</sup> Geo. Agricola. Ibid. <sup>n</sup> Pet. Andr. Matthioli Epist. Lib. 3. <sup>o</sup> philosoph. Transact. Numb. 166. 72.

between a stone and an earth ; but whether the one or the other, made of a mixture (I guess) of some *Salt* or other, and a *pure earth* without *Sulphur*, coagulated in the *winter*, and harden'd to perfection by the heats in *Summer*. Which *Salt* *Johannes Hesses* proves by a very cogent argument to be *Alumen liquidum*, describing it, as *Matthiolum* also does <sup>p</sup>, to be a *whitish lacteous substance* somewhat inclining to *yellow*, that sweats out of the *earth*, and smells like *Rotten cheese*: whereof having gather'd a quantity at *Puteoli*, together with the other *Species's* of *Alum*, and kept it a while by him, when he came to look on it again, he found it to have lost the smell, and a great part of it changed into *Alumen Plumeum*<sup>q</sup>: the *Saline* part (I suppose) shooting into *threads*, and the *pure earth* uniting them, as found in the places wherever generated: whether *sweating* from the *earth* as *Pliny* and *Matthiolum* would have it <sup>r</sup>; or *percolated* through *rocks*, as we find it in *Wales*, the veins of it there running through a rock of stone in hardness and colour not unlike *flint*<sup>t</sup>. And yet it seems to be made of much such an *Alum* as that of *John Hesses* at *Puteoli* was, some of it being *straw-colour'd*, as if it still retain'd the *yellowness* that his *liquid bitumen* was said to have: which is a colour not given it by any *Author*, most of it being said to be *white* or *cinereous*; some of it *red*; and some of an *Iron* colour as *Agri-cola* tells us <sup>u</sup>; and I have some of the *Cyprian* by me sent from *Aleppo* by my worthy friend *Dr. Rob. Huntington* now *Provost* of *Trin. Coll. Dublin* whereof some is of a *light blew* or *pearl-colour*; and some of it has a cast of *Sea-green*. But however the whole mineral substances found at several places may differ in colour; yet I do not find but the *woolly* part of them all seems to be much the same, *viz.* of a *white Silver* colour, the threads very *fine*

<sup>p</sup> And. Matthioli Comment. in Lib. 5. Dioscor. cap. 82. <sup>q</sup> Andr. Matthioli Epistol. Lib. 3. <sup>r</sup> C. Plinii 2<sup>da</sup>. Nat. Hist. Lib. 35. cap. 15. & Andr. Matthioli Comment. in Lib. 5. Dioscor. cap. 82. <sup>s</sup> Philosoph. Transact. Numb. 166. <sup>t</sup> Geo. Agricola de Nat. Fossil. L. 5.

and slender, yet very ponderous, the smallest particles of them throughly wet, sinking in *water*; as I also found a very slender thrumm of the *Incombustible Linnen* given me by Mr. *Baily*; which Mr. *Waite* brought from *India*, would also doe: which renders it very probable that it is not a *vegetable*, but a *mineral substance*, notwithstanding the informations of *Conco* and *Keay-arear Sukradana* mention'd in Mr. *Waite's* Letter. I say, renders it probable, there being several woods, such as *Box*, *red-wood*, *Persian wood*,<sup>u</sup> &c. that will sink in water.

Concerning the *manufacture* of it into *thred*, *cloth*, &c. our *Letter* is silent, but *Marcus Paulus Venetus* very luckily supplies this defect, acquainting us in his book *de Regionibus Orientalibus*, how, it is made in *Tartary* it self: where he says it is found in a certain mountain in the province of *Chinchinthalas*, and made into *cloth*, as he was inform'd by one *Curficar* a *Turk* who was *Superintendent* of the *Mines* in that *Country*, after this manner. The *Lanuginous mineral* or *Amianthus* being first dried in the *Sun*, is next pounded in a *brass mortar*, and the *earthy* part separated from the *woolly*, which is afterward *wash'd* from all filth whatever that may yet stick to it, and so, being thus purged, is then *spun* into *thred* like other *wool*, and after *wove* into *cloth*: which if *foul* or *spotted*, they cleanse, he says, by throwing it into the *fire* for an *hours* time, whence it will come forth unhurt, as white as *Snow*<sup>w</sup>. Which very *Method* (as *Strabo* prescribes it) seems also to have been used in ordering the *Cretan Amiantus*, only with this addition, that after it was pounded, and the *earthy* part shook from the *wooly*, he says 'twas *comb'd*, and so does *Agricola*, which argues there was some of a greater length than any I have yet seen<sup>x</sup>: what the *Cretan* might be I cannot tell, but the *Cyprian* I am sure is short enough, so is the *Welsh*, and so

<sup>u</sup> Philosoph. Transact. Numb. 169. <sup>w</sup> Mar. Pauli Veneti de Regionibus Orientalibus Lib. 1. cap. 47. <sup>x</sup> Strabonis rer. Geograph. Lib. 10. & Geo. Agricola de Nat. Fossil. Lib. 5.



was all that was known in *Pliny's* time, who confesses it was very difficult to *weave* by reason of its *shortness, difficile textu propter brevitatem*: insomuch that I guess they used some *Art* to effect it, not discover'd by *Authors*, spinning it perhaps first together with *Tow*, and so weaving it into *cloth*, by which means 'tis likely it might hang together after twas *woven*, the *tow* being burnt away upon the first exposing it to the *fiery triall*; or else if they spun it alone, perhaps they might moisten it with *Gum-water*, or some other such *glutinous liquor*, to make it hang the better together, during the *spinning* and *working* it into *cloth*, which though burnt away upon the first *experiment*, yet the *Amiantus* once *woven*, in all probability might then hang together well enough of it self.

Thus having shewn the *Method* how *anciently*, and how possibly this *mineral* may be spun into *thread*, and consequently work't into *cloth* in our *Age*: let us next consider to what uses it ever was, or may be put. As to the former whereof *Pliny* informs us, that *Shrouds* of this *Linnen* were anciently used, at the *Royal Obsequies* of *K. K.* to wrap up their *Corps* in, so as that the *ashes* of their *bodies* might be preserved distinct from *those* of the *wood* which made the *funeral Pile*; and the *Letter* acquaints us that the *Princes* of *Tartary*, as *Yey-arear Sukradana* was credibly informed, doe use such at this day for *burning* their *dead*: which I have had so well confirmed from other hands since my receipt of that *Letter*, that I have little reason to doubt of the thing; there being no incapacity on the part of the *cloth*: of which though, as the *Letter* says, some is not so *good* as the rest (as 'tis in most other *commodities*) yet I doe not find there is any so *bad*, but will so far resist the *fire*, as to perform this *office*: for though it must be acknowledged it does *diminish* every time it un-

dergoes the violence of the *fire*; yet this hinders not but it may, and will, doe that *Service* divers times, before it be renderd altogether useles. *Cælius Calcagnanus* says that some of the *Ancients* made them *cloths* of it<sup>a</sup>; with whom agrees *Turnebus* in his *Commentary* upon *Varro*<sup>a</sup>; and *Cælius Rhodiginus* tells us indefinitely that the *Indians* did make them *Garments* of it<sup>b</sup>; but *Hieracles* restrains it to the *Brachmans* only<sup>c</sup>. The *Wicks* for the *Perpetual Lamps* of the *Ancients* were also made of *this*, as the same *Rhodiginus* further acquaints us; the *Wick* of the golden Lamp of *Callimachus* that hung in *Acropoli* being made (as he says) *è Lino Carpasio*, of which the fire had no power<sup>d</sup>. The *Emperor Constantin* also, as *Damasus* informs us, appointed a *Wick* to be made of this *incombustible flax*, which should perpetually burn in his *Baptistery* at *Rome*<sup>e</sup>. And *Ludov. Vives* bears us Witness, that he saw many of these in Lamps, at *Paris*, that would never consume<sup>h</sup>. That *Napkins*, *Mantles*, a *Purse* and *Rope* have been made of it, has been shewn already; and we are told that *Septalla*, *Canon of Millan* had thred, roaps, net-networks, and *Paper* of it<sup>i</sup>. *Marco Antonio Castagna*, who lately found this *mineral* somewhere in *Italy*, knows how to prepare, and render it so tractable and soft, that it resembles well enough a very fine *Lambs-Skin*, which he can thicken and make thin to what degree he pleaseth, and maketh it thereby, like either to a very *white Skin*, or a very *white Paper*<sup>k</sup>. We have also made *paper* of our *Welsh Amiantus* but lately here at *Oxford*, which will bear both *fire* and *Ink* well enough, the *Ink* only turning *red* by the *violence* of the *fire*<sup>l</sup>.

Lastly, to shew the *reason* whence it is, that this sub-

<sup>a</sup> Cælii Calcagnini Epistol. Quæst. Lib. 3. Epist. 1. <sup>z</sup> Andr. Turnebi Comment. in Varr. de Lingua Lat. <sup>b</sup> Cælii Rhodigini Lectio. Antiq. Lib. 18. cap. 31. <sup>c</sup> Vid. Geo. Agricola de Nat. Foss. Lib. 5. <sup>d</sup> Cælii Rhodigini Lectio. Antiq. Lib. 14. cap. 18. <sup>e</sup> Damas. in Sylvestr. Pap. <sup>h</sup> Ludov. Vives in Scholio ad D. August. de Civitat. Dei. Lib. 21. cap. 6. <sup>i</sup> Musæum Regalis Societat. Part. 3. chap. 5. <sup>k</sup> Philosoph. Transact. Numb. 72. <sup>l</sup> Philosoph. Transact. Numb. 166.

stance should be so strangely privileg'd by *nature*, as to be wholly put out of the *power* of *fire*: we must consider first (that we doe it with clearness) the *Qualities* and *power* of *fire* it self; 2. the condition of the *things* most lyable to *fire*; and then 3. what *things* they are that *resist* it most, and *remain* after it has exercised its ultimate force. The *qualities* then and *power* of *fire* according to *Aristotle* are, ἀξερῖν τὰ μὴ ὁμοῖα, συστρῖν δὲ τὰ ὁμοῖα m, to *separate* things of a *different*, and *unite* those of a *like* nature. 2 The *Subjects* most apt to take *fire* and be dissolved by it, we find to be such *heterogeneous* bodies, in whose *pores* the most *Sulphureous* bituminous, and *aqueous particles* are lodg'd; which being seized by *fire*, are quickly put into motion, dilated, separated, and being thus made capable of flying away, are at last consumed; and dissolve the *frame* of those bodies whose *parts* before were *united* by them. When these are fled and gone, the *fire* naturally goes out, as having nothing now left to work upon, nothing remaining, but the *Salts* and *Earth* in the form of *Ashes*: which 3. in all sorts of compounds are the *things* that *resist* this *Element* most, and will remain after the most *exalted* operation it can be forced to. Nor doe the *Salts* only of *mixt* bodies thus baffle the force of *fire*, but the *simple* ones much more, as being more *homogeneous*, as we see in the *decrepitation* of *common Salt*, and *exsiccation* of *Vitriol*, which when the *aqueous* parts are once evaporated, are now a *pure simple homogeneous* body, no more *sensible* of the *fire*, the *decrepitation* ceasing, and nothing remaining that can be *dilated*, any further to break the *corns* of *Salt*. Now whatever the *fire* cannot *dilate*, it cannot *separate*, nor consequently *destroy*, or carry any thing from it, but what is *heterogeneous* and accidentally adhering to the outside of it: which is perfectly the case of our *incombustible Linnen*, whose *threads*

being altogether *homogeneous*, and nothing else but the *pure stria* of *liquid Alum*, as was shewn above, holding nothing of *Sulphur*, *bitumen*, or *water*, or any thing that is different or *heterogeneous* to it self, that can be *dilated* or *separated*, it is in no possibility indeed of being *lyable* to the *fire*: which may indeed pass through it, as we see it does when 'tis made *red hot*, but can carry nothing from it; but such *accidental filth* as has been put upon it, or accrewed by useing.

And thus *Gentlemen* I have run through the several *branches* laid down above, according to the capacity of the *subject*, and my self; wherein if I have done well, you have your *desire*; if ill, you see I have not scrupled to hazard my *reputation*, to serve my *Friends*; so that I hope you will believe without a *Complement*, that I really am,

Your most humble

Servant, R. P.